

Appl. No. 10/027,343
Amendment dated June 16, 2006

REMARKS

L. Introductory Remarks

A telephonic interview was held on June 2, 2006 between Examiner Peter Vrettakos, Donald O. Nickey, Esq., and Michael J. Gallagher, Esq. The following explanations and arguments are supplied in confirmation of that interview. The Examiner has indicated that the preceding Amendments and following Arguments satisfy the Examiner's concern for a more definite expression of the transmission of rotational force between the prime mover and tool of the instant invention.

1. The instant invention employs a positive mechanical interlock between the tool and the prime mover such that any translational motion of the prime mover is positively directed to the tool.

The device of Freitas (U.S. Pat. No. 5,486,185)('185) couples its actuator shaft to its tool by means of a button-like, or mushroom-shaped, structure on the shaft ("cylindrical body" – element 108) that fits within a generally U-shaped structure on the tool ("coupling channel" – 222). The only means of assembly possible is for the coupling channel (122) to be fit over the cylindrical body (108), hence the necessity for sufficient clearance between the two structures to allow fit by superimposition, and therefore, the lack of a positive physical attachment between the two. It can be seen that if rotational force were applied to either the shaft or the tool, that rotational force would not be transmitted between the two, as can be seen in this illustration from the '185 patent:

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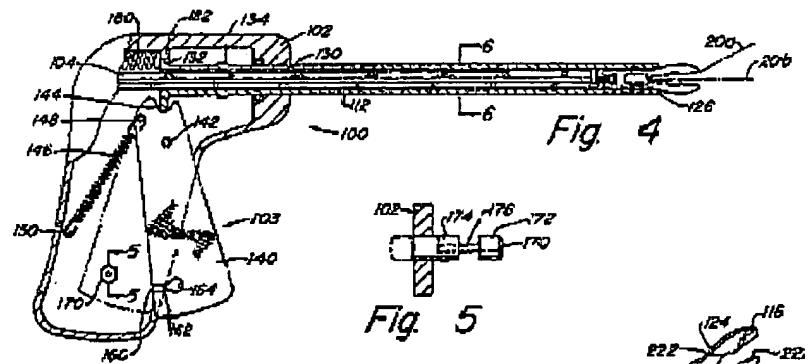


Fig. 4

Fig. 5



Fig. 7

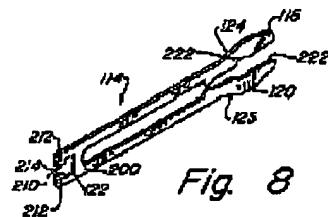


Fig. 8

FIGS. 4, 7, and 8 of Freitas, showing how the button like cylindrical body 108 fits within the T-shaped coupling channel 212. Any rotational force on the cylindrical body 108 will simply cause the body to spin within the confines of the coupling channel 212, with little or no rotational force being transmitted to the tool 114.

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By way of simple analogy, the tool (114) "free wheels" on the shaft, like a wheel upon an axle, without transmitting rotational force between the wheel and axle.

In contrast, the instant invention employs a positive physical attachment mechanism by which the shaft ("prime mover" – element 130) is coupled to the tool ("interchangeable surgical tool" – element 160"). This is accomplished in a variety of ways, and one embodiment, shown in an illustration from the application that is intended only for example and not limitation, is shown below:

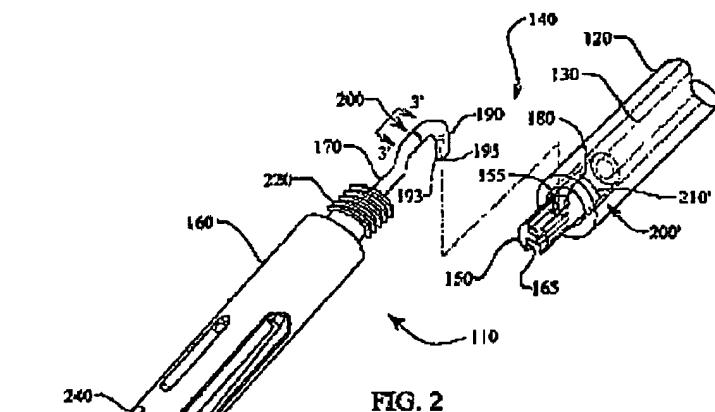


FIG. 2

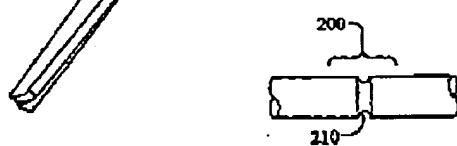


FIG. 3

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In this example, a generally hook shaped tine (190) is seen to interlock with a capture ledge (155) that is part of a capture member (150). The interlocking of these structures causes any rotational force that is applied to the prime mover (130) being immediately and positively transmitted to the interchangeable surgical tool (160) through the capture member (150). A variety of other interlocking embodiments are disclosed and claimed in the application, and it is intended that the application shall embody other interlocking mechanisms that are not described but that would be obvious to one skilled in the art. However, each of these interlocking mechanisms has in common that "rotational motion is transmitted between the shaft and the tool," and therefore, this limitation has been placed by amendment into the claim language. Thus, again by way of simple analogy, the interlocking mechanism performs in an analogous way to a spline or key-way on an axle to prevent "free-wheeling."

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CONCLUSION

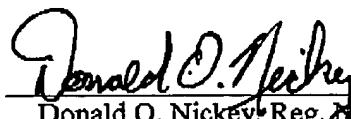
In light of the amendment to the claims and these remarks, it is believed that each and every rejection raised by the Examiner, and discussed in the telephone conference of June 2, 2006 has been overcome. It is the Applicants' position that the claims are in a condition for allowance. Allowance of the claims is respectfully solicited.

Should the Examiner have any questions or concerns prior to passing this case onto allowance, he is invited to contact the Applicants' undersigned representative.

Respectfully submitted,

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By:



Donald O. Nickey, Reg. No. 29,092
Attorney for Applicants
Cardinal Health, Inc.
7000 Cardinal Place
Dublin, Ohio 43017
Tel. (614) 757-5542
Fax (614) 757-2243